a speed ratio corresponding to a projecting magnification of said projection optical system; [and]

a first measuring system for measuring a position of the mask within a plane perpendicular to said optical axis, wherein said first measuring system includes a rotational angle detecting device for detecting a rotational angle of the mask within the plane perpendicular to said optical axis;

a second measuring system for measuring a position of the substrate within a plane perpendicular to said optical axis; and

an adjusting system for moving the mask to decrease a positional deviation between the mask and the substrate, independently of scanning of the mask which is performed by said scanning system, during the scanning exposure, wherein said adjusting system includes a finely movable stage for relatively moving the mask on said mask stage, a driving member for finely driving said finely movable stage in the direction perpendicular to said optical axis, and a controller for controlling the driving member in accordance with signals from said first and second measuring systems.

14. (Amended) An apparatus according to claim [13] 9, wherein

said finely movable stage includes a mirror having a reflecting surface substantially perpendicular to said plane, and

said first measuring system includes an interferometer for radiating a light beam onto said reflecting surface and receiving the light beam reflected by said reflecting surface.

29. (Twice Amended) A scanning exposure apparatus for projecting a pattern image of a mask onto a sensitive plate through a projection system having a predetermined magnification ratio in a scanning manner, the apparatus comprising:

(a) a scanning system for synchronously, relatively scanning the mask and the plate with respect to a projection field of said projection system at a velocity ratio

corresponding to said magnification ratio during the scanning exposure, wherein the scanning system includes a mask driving unit and a plate driving unit, and wherein the mask and the plate are moved synchronously using the mask driving unit and the plate driving unit during the scanning exposure;

(b) a finely movable stage provided on said scanning system for finely moving the mask relative to said scanning system in each of translational and rotational directions;

(c) a detecting system for detecting a positional deviation amount between an ideal positional relation and an actual positional relation of the mask and the plate during the scanning exposure, wherein said detecting system includes a first interferometer system to measure positional information of the mask and a second interferometer system to measure positional information of the plate, and wherein said finely movable stage has a reflection surface, and said first interferometer system measures the positional information of the mask by applying a measuring beam to the reflection surface; and

(d) a control system for driving said finely movable stage based on said detected deviation amount in order to decrease the positional deviation of the mask and the plate.

30. (Twice Amended) A scanning exposure method in which a pattern area of a mask is transferred onto a sensitive plate through a projection optical system in a scanning manner, the method comprising [the steps of]:

(a) irradiating the mask with a radiation having a slit shaped intensity distribution in order to project a slit image portion of said pattern area of the mask toward the plate through said projection optical system;

(b) synchronously scanning each of the mask and the plate relative to said projection optical system in a scanning direction perpendicular to a longitudinal direction of said slit image portion at a predetermined velocity ratio by using a scanning mechanism for

the scanning exposure, wherein the scanning mechanism includes a mask driving unit for moving the mask and a plate driving unit for moving the plate;

(c) detecting a deviation value between an ideal positional relation and an actual positional relation of the mask and the plate at a term of the scanning exposure by using a first measuring system to measure positional information of the mask and a second measuring system to measure positional information of the plate; and

(d) correcting a position of the mask determined by said scanning mechanism so as to decrease said detected deviation value by using a fine moving mechanism provided on said scanning mechanism at the term of the scanning exposure.

33. (Three Times Amended) A scanning exposure method in which a pattern area of a mask is transferred onto a sensitive plate through a projection system in a scanning manner, the method comprising [the steps of]:

(a) irradiating the mask with a radiation in order to project an image portion of said pattern area of the mask onto the plate through said projection system;

(b) synchronously scanning each of the mask and the plate relative to said projection system in a scanning direction at a predetermined velocity ratio by using a scanning mechanism for the scanning exposure, wherein the scanning mechanism includes a mask driving unit for moving the mask and a plate driving unit for moving the plate, and wherein the mask and the plate are moved in accordance with an imaging reduction ratio of the projection system;

(c) detecting a deviation between an ideal positional relation and an actual positional relation of the mask and the plate at a term of the scanning exposure by using a first measuring system to measure positional information of the mask and a second measuring system to measure positional information of the plate; and

L4 cont'd

(d) correcting a position of the mask determined by said scanning mechanism for decreasing said detected deviation by using a fine moving mechanism provided on said scanning mechanism at the term of the scanning exposure.

36. (Four Times Amended) A scanning exposure method in which a pattern of a mask is transferred onto a sensitive plate through a projection system in a scanning manner, the method comprising:

(a) irradiating the mask with a radiation in order to project an image of said pattern of the mask onto the plate through said projection system;

(b) synchronously scanning each of the mask and the plate relative to said projection system by using a scanning mechanism for a scanning exposure, wherein the scanning mechanism includes a mask driving unit for moving the mask and a plate driving unit for moving the plate, and wherein a scanning velocity of the mask is different from a scanning velocity of the plate;

L5

(c) detecting a positional deviation amount between the mask and the plate at a term of the scanning exposure by using a first interferometer to measure positional information of the mask and a second interferometer to measure positional information of the plate; and

(d) correcting a position of the mask determined by said scanning mechanism for decreasing said detected deviation using a fine moving mechanism at the term of the scanning exposure.

37. (Four Times Amended) A scanning exposure apparatus in which a first object is moved in a first direction and a second object is moved in a second direction for scanning exposure, the apparatus comprising:

L6

a projection system for the scanning exposure, which is disposed in an optical path of an exposure beam, the first object being provided on one side of the projection system and the second object being provided on the other side of the projection system;

a first driving system which moves the first object in the first direction, at least a part of the first driving system being on the one side of the projection system;

a second driving system which moves the first object in a plane substantially parallel to the surface of the first object while the first object is moved by the first driving system, at least a part of the second driving system being on the one side of the projection system;

a third driving system which moves the second object in the second direction, at least a part of the third driving system being on the other side of the projection system;

a first movable member which is movable in the first direction; and

a second movable member which is movable relative to the first movable member and which holds the first object,

wherein the first object held by the second movable member is moved in the first direction by moving the first movable member using the first driving system, and the first object is moved relative to the first movable member by moving the second movable member using the second driving system, and

wherein the first object and the second object are synchronously moved by the first driving system and the third driving system.

L6 cont'd

55. (Amended) An apparatus according to claim 37, wherein:

the second driving system operates to correct a positional relationship between the first object and the second object during a synchronous movement of the first object and the second object.

L7

68. (Three Times Amended) A scanning exposure method in which a first object is moved in a first direction and a second object is moved in a second direction for a scanning exposure, the method comprising:

L8

moving a first object in the first direction by using a first driving system;

shifting the first object in a plane substantially parallel to a surface of the first object by using a second driving system while the first object is moved by the first driving system, wherein the first driving system moves a first movable member, the second driving system shifts a second movable member, which supports the first object, relative to the first movable member, and wherein the first object is moved in the first direction by moving the first movable member using the first driving system and is shifted by shifting the second movable member using the second driving system; and

L 8 Cont'd

moving a second object in the second direction by using a third driving system,

wherein the first object and the second object are synchronously moved by the first driving system and the third driving system.

76. (Amended) A method according to claim 74, wherein said relative relationship is detected by an interferometer system including a first interferometer unit and a second interferometer unit which detect positional information of the first and second objects respectively.

L 9

84. (Amended) A method according to claim 68, wherein:

L 10

the second driving system operates to correct a positional relationship between the first object and the second object during a synchronous movement of the first object and the second object.

97. (Three Times Amended) A method for making a scanning exposure apparatus in which a first object is moved in a first direction and a second object is moved in a second direction for a scanning exposure, the method comprising:

L 11

providing a projection system for the scanning exposure, which is disposed in an optical path of an exposure beam, the first object being provided on one side of the projection system and the second object being provided on the other side of the projection system;

providing a first driving system which moves the first object in the first direction, at least a part of the first driving system being on the one side of the projection system;

providing a second driving system which moves the first object in a plane substantially parallel to a surface of the first object while the first object is moved by the first driving system, at least a part of the second driving system being on the one side of the projection system;

providing a third driving system which moves the second object in the second direction, at least a part of the third driving system being on the other side of the projection system;

providing a first movable member which is movable in the first direction; and

providing a second movable member which is movable relative to the first movable member and which holds the first object,

wherein the first object held by the second movable member is moved in the first direction by moving the first movable member using the first driving system, and the first object is moved relative to the first movable member by moving the second movable member using the second driving system, and

wherein the first object and the second object are synchronously moved by the first driving system and the third driving system.

115. (Amended) A method according to claim 97, wherein:

the second driving system operates to correct a positional relationship between the first object and the second object during a synchronous movement of the first object and the second object.